

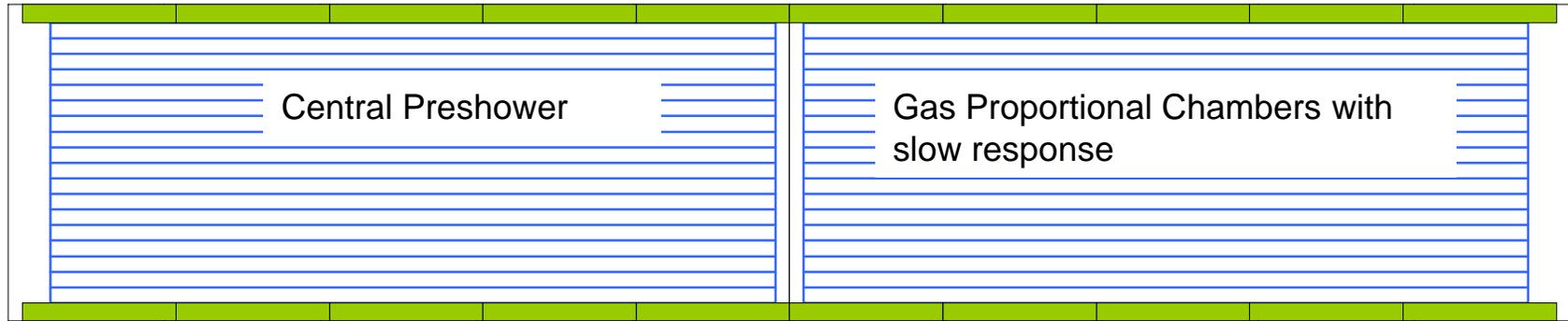
Simulations for the CPR Upgrade

Steve Kuhlmann for Jun Suh and Sunghyun Chang

8-26-04

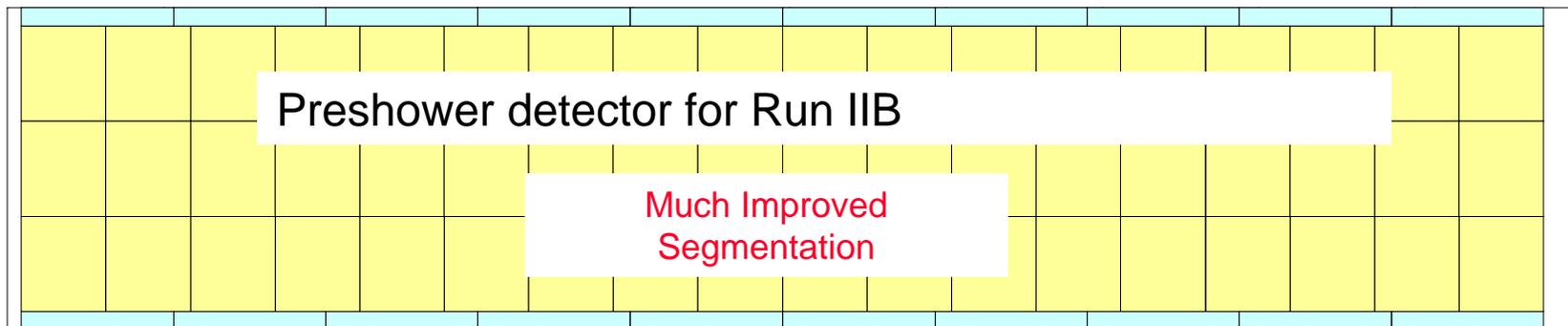
Central Preshower and Crack Detectors are being replaced with scintillator tiles (currently gas wire chambers).

Current detectors



Central Crack Detectors behind $8 X_0$
Tungsten bar

More Gas Proportional Chambers with slow
response



Preshower detector for Run IIB

Much Improved
Segmentation

Crack Detectors for Run IIB

Simulations for the CPR Upgrade

There are many different possibilities:

1. Simply update the geometry, using old code to generate the pulse heights (with a modified MIP distribution). This is what Jun and Sunghyun have implemented and should be installed next week. This is sufficient for Photons, the main user of CPR.
2. Much of the old code is in a fairly extensive Fortran package, which could be converted to C++.
3. But for more detailed studies of charged hadrons for electron ID or jet algorithms or tau algorithms, one would like to have a better simulation of charged hadrons.
4. One would also like to have the correlations with CES.
5. #3+#4 was started in Run I but ran out of manpower, it is a major overhaul.
6. My preference is to skip #2 and try again to find people to do #3+#4, it is more than Jun and I can do without a new person.

CPR Upgrade Simulation

Sunghyun Chang, Jun Suh

